

FIG. 1

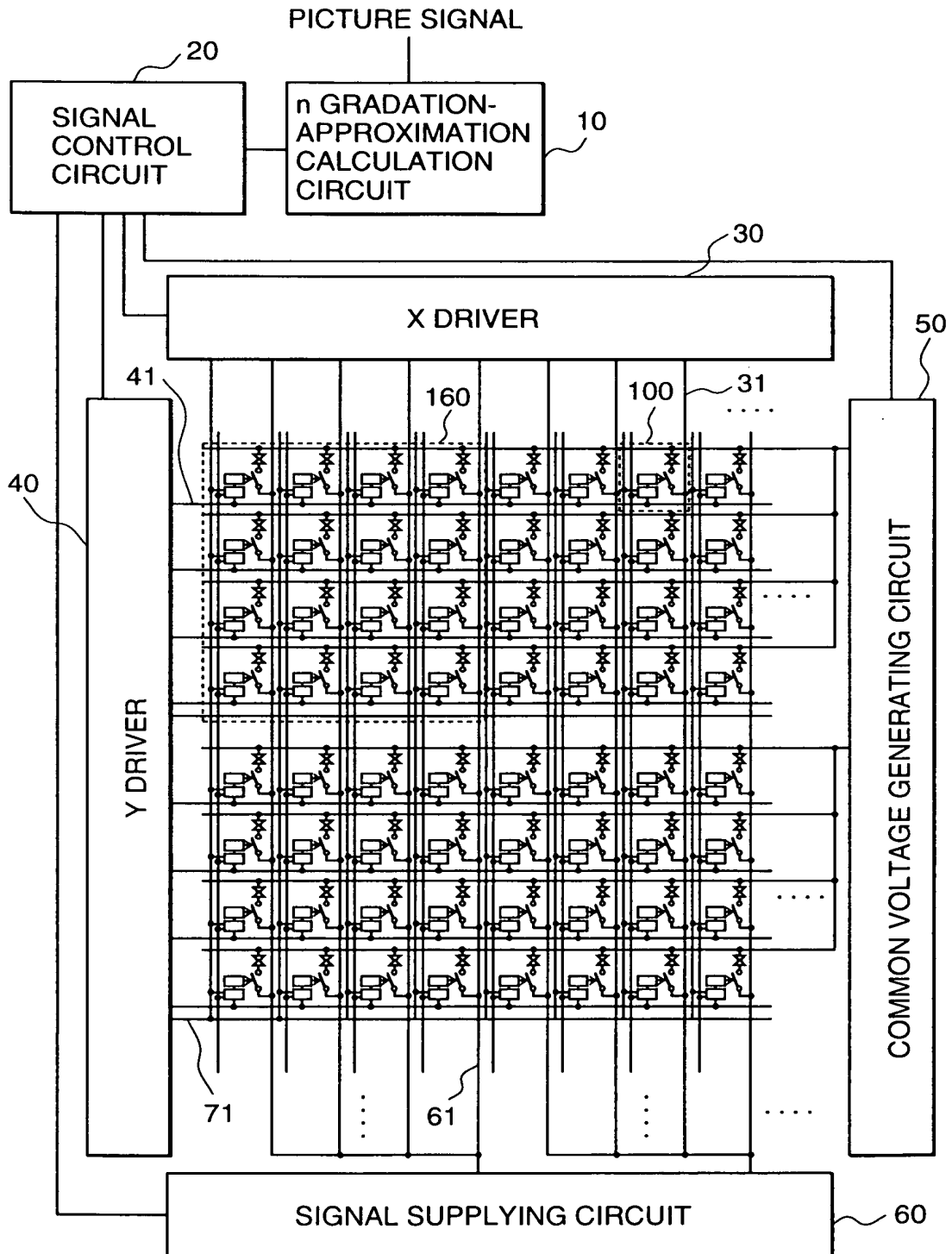


FIG. 2

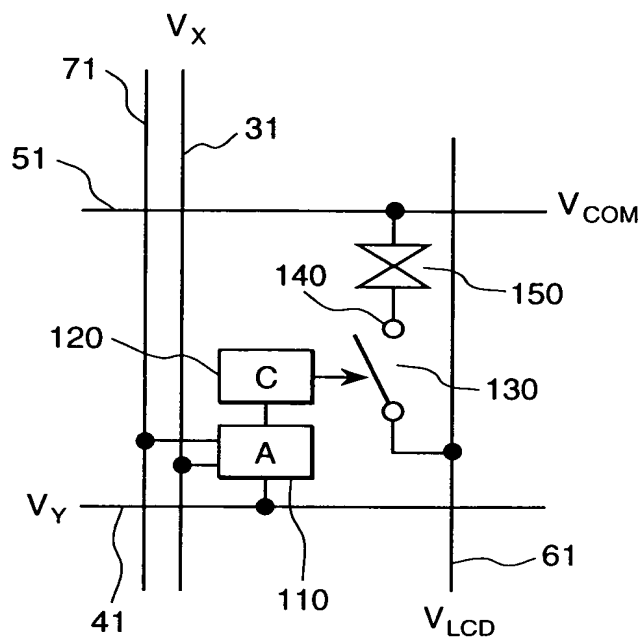


FIG. 3

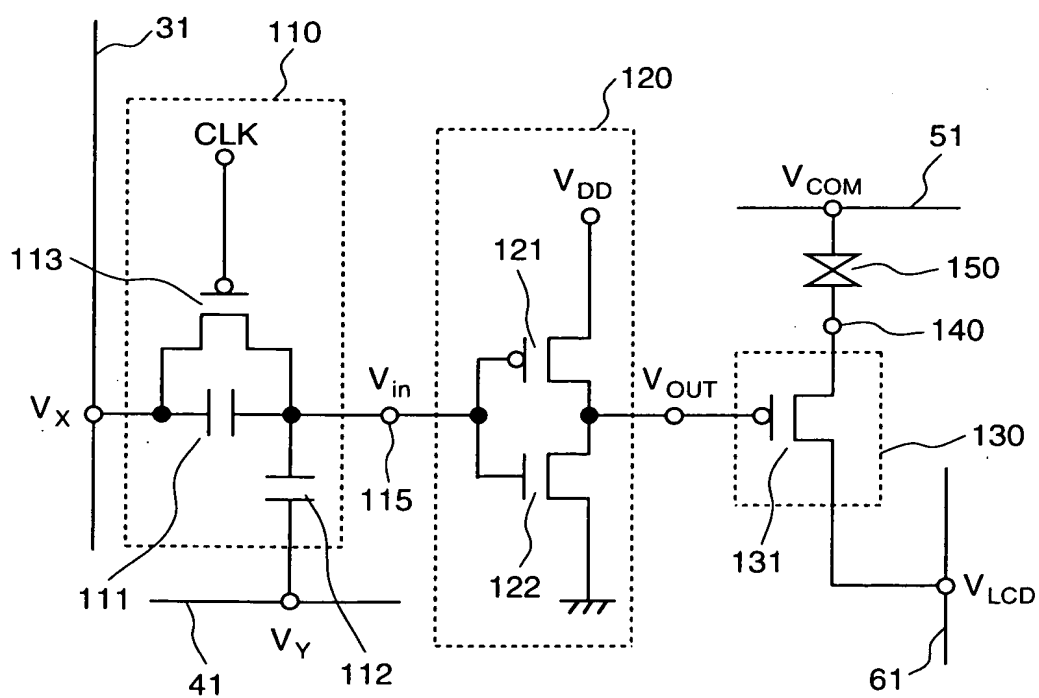


FIG. 4

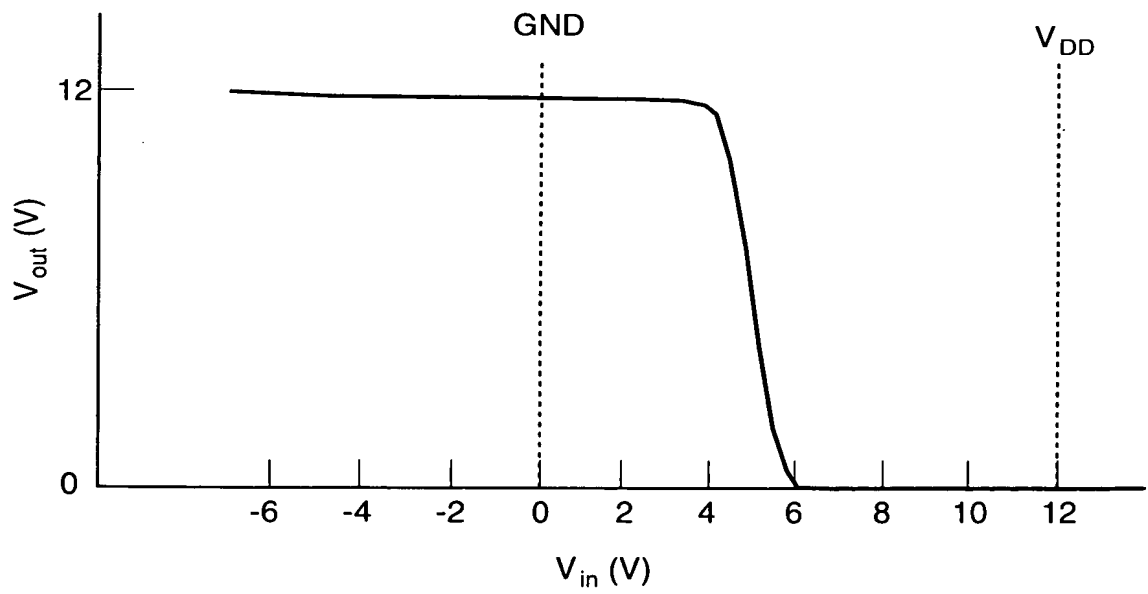
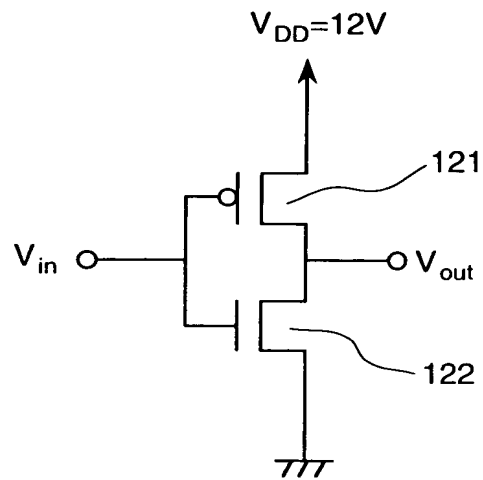


FIG. 5

SELECTION PERIOD  $t_1$ :

LINES 1 TO 4

$$V_{in}(t_1) = (V_X(t_1) + V_X(t_1))/2 \\ = (V_X(t_1) + 20j/2) \geq 6$$

LINES 5 TO 8

$$V_{in}(t_1) = (V_X(t_1) + V_X(t_1))/2 \\ = (V_X(t_1) + 0j/2) \leq 4$$

SELECTION PERIOD  $t_2$ :

LINES 1 TO 4

$$V_{in}(t_2) = (V_X(t_2) + V_X(t_2))/2$$

LINES 5 TO 8

$$V_{in}(t_2) = (V_X(t_2) + V_X(t_2))/2 \\ = (V_X(t_2) + 20j/2) \geq 6$$

SELECTION PERIOD  $t_3$ :

LINES 1 TO 4

$$V_{in}(t_3) = (V_X(t_3) + V_X(t_3))/2 \\ = (V_X(t_3) + 0j/2) \leq 4$$

LINES 5 TO 8

$$V_{in}(t_3) = (V_X(t_3) + V_X(t_3))/2$$

|            |    | $V_X(t_1)$ |    |    |    |    |    |    |    |
|------------|----|------------|----|----|----|----|----|----|----|
|            |    | 4          | 8  | 8  | 4  | 0  | -4 | -8 | -8 |
| $Y_Y(t_1)$ | 20 | 12         | 14 | 14 | 12 | 10 | 6  | 6  | 6  |
|            | 20 | 12         | 14 | 14 | 12 | 10 | 6  | 6  | 6  |
|            | 20 | 12         | 14 | 14 | 12 | 10 | 6  | 6  | 6  |
|            | 20 | 12         | 14 | 14 | 12 | 10 | 6  | 6  | 6  |
|            | 0  | 2          | 4  | 4  | 2  | 0  | -2 | -4 | -4 |
|            | 0  | 2          | 4  | 4  | 2  | 0  | -2 | -4 | -4 |
|            | 0  | 2          | 4  | 4  | 2  | 0  | -2 | -4 | -4 |
|            | 0  | 2          | 4  | 4  | 2  | 0  | -2 | -4 | -4 |

(a)

|            |    | $V_X(t_2)$ |    |    |    |    |    |    |    |
|------------|----|------------|----|----|----|----|----|----|----|
|            |    | 0          | -4 | -4 | 0  | 4  | 0  | -4 | -8 |
| $Y_Y(t_2)$ | 4  | 2          | 0  | 0  | 2  | 4  | 2  | 0  | -2 |
|            | 8  | 4          | 2  | 2  | 4  | 10 | 4  | 2  | 0  |
|            | 12 | 12         | 4  | 4  | 12 | 10 | 6  | 4  | 2  |
|            | 16 | 12         | 14 | 14 | 12 | 10 | 6  | 6  | 4  |
|            | 20 | 2          | 4  | 4  | 2  | 0  | -2 | -4 | -4 |
|            | 20 | 2          | 4  | 4  | 2  | 0  | -2 | -4 | -4 |
|            | 20 | 2          | 4  | 4  | 2  | 0  | -2 | -4 | -4 |
|            | 20 | 2          | 4  | 4  | 2  | 0  | -2 | -4 | -4 |

(b)

|            |    | $V_X(t_3)$ |   |   |   |   |    |    |    |
|------------|----|------------|---|---|---|---|----|----|----|
|            |    | -4         | 0 | 0 | 0 | 0 | -4 | -8 | -8 |
| $Y_Y(t_3)$ | 0  | -2         | 0 | 0 | 0 | 0 | -2 | -4 | -4 |
|            | 0  | -2         | 0 | 0 | 0 | 0 | -2 | -4 | -4 |
|            | 0  | -2         | 0 | 0 | 0 | 0 | -2 | -4 | -4 |
|            | 0  | -2         | 0 | 0 | 0 | 0 | -2 | -4 | -4 |
|            | 4  | 0          | 2 | 2 | 2 | 2 | 0  | -2 | -2 |
|            | 8  | 2          | 4 | 4 | 4 | 4 | 2  | 0  | 0  |
|            | 12 | 4          | 6 | 6 | 6 | 6 | 4  | 2  | 2  |
|            | 16 | 6          | 8 | 8 | 8 | 8 | 6  | 4  | 4  |

(c)

FIG. 6

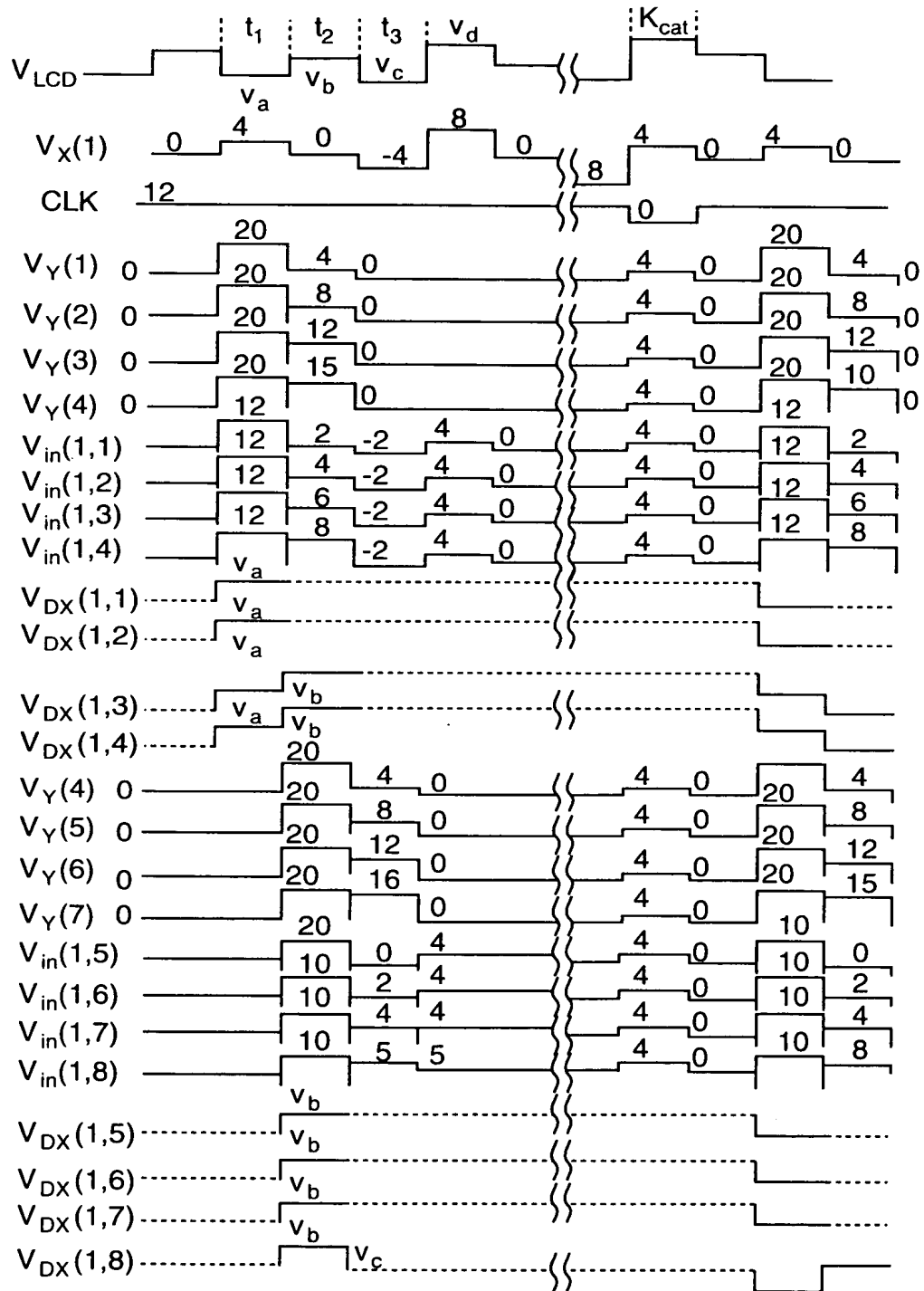


FIG. 7

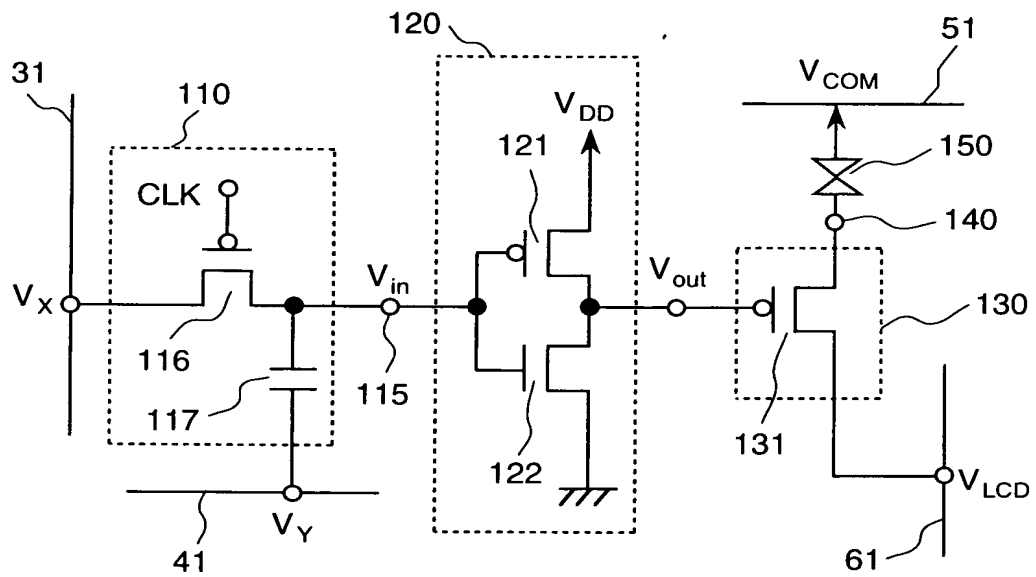


FIG. 8

SELECTION PERIOD  $t_1$ :

LINES 1 TO 4

$$V_{in}(t_1) = V_X(t_1) \geq 6$$

LINES 5 TO 8

$$\text{HOLDING } V_{in}(t_1) \leq 4$$

|    |            |            |   |   |    |    |    |   |   |
|----|------------|------------|---|---|----|----|----|---|---|
|    |            | $V_X(t_1)$ |   |   |    |    |    |   |   |
|    |            | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 10 | $Y_Y(t_1)$ | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 10 |            | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 10 |            | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 10 |            | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 0  |            | *          | * | * | *  | *  | *  | * | * |
| 0  |            | *          | * | * | *  | *  | *  | * | * |
| 0  |            | *          | * | * | *  | *  | *  | * | * |
| 0  |            | *          | * | * | *  | *  | *  | * | * |

(a)

SELECTION PERIOD  $t_2$ :

LINES 1 TO 4

$$V_{in}(t_2) = V_X(t_1) + V_Y(t_2) - 10$$

$$V_{in}(t_2) = V_X(t_2) \geq 6$$

|    |            |            |    |    |    |    |   |   |    |
|----|------------|------------|----|----|----|----|---|---|----|
|    |            | $V_X(t_2)$ |    |    |    |    |   |   |    |
|    |            | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6  |
| 2  | $Y_Y(t_2)$ | 2          | 0  | 0  | 2  | 4  | 2 | 0 | -2 |
| 4  |            | 4          | 2  | 2  | 4  | 6  | 4 | 2 | 0  |
| 6  |            | 6          | 4  | 4  | 6  | 8  | 6 | 4 | 2  |
| 8  |            | 8          | 6  | 6  | 8  | 10 | 8 | 6 | 4  |
| 10 |            | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6  |
| 10 |            | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6  |
| 10 |            | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6  |
| 10 |            | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6  |

(b)

SELECTION PERIOD  $t_3$ :

LINES 1 TO 4

$$\text{HOLDING } V_{in}(t_3) = V_X(t_1) - 10 \leq 4$$

LINES 5 TO 8

$$V_{in}(t_3) = V_X(t_2) + V_Y(t_3) - 10$$

|   |            |            |   |   |   |   |    |    |    |
|---|------------|------------|---|---|---|---|----|----|----|
|   |            | $V_X(t_3)$ |   |   |   |   |    |    |    |
|   |            | -4         | 0 | 0 | 0 | 0 | -4 | -8 | -8 |
| 0 | $Y_Y(t_3)$ | -2         | 0 | 0 | 0 | 0 | -2 | -4 | -4 |
| 0 |            | -2         | 0 | 0 | 0 | 0 | -2 | -4 | -4 |
| 0 |            | -2         | 0 | 0 | 0 | 0 | -2 | -4 | -4 |
| 0 |            | -2         | 0 | 0 | 0 | 0 | -2 | -4 | -4 |
| 2 |            | 0          | 2 | 2 | 2 | 2 | 0  | -2 | -2 |
| 4 |            | 2          | 4 | 4 | 4 | 4 | 2  | 0  | 0  |
| 6 |            | 4          | 6 | 6 | 6 | 6 | 4  | 2  | 2  |
| 8 |            | 6          | 8 | 8 | 8 | 8 | 6  | 4  | 4  |

(c)

FIG. 9

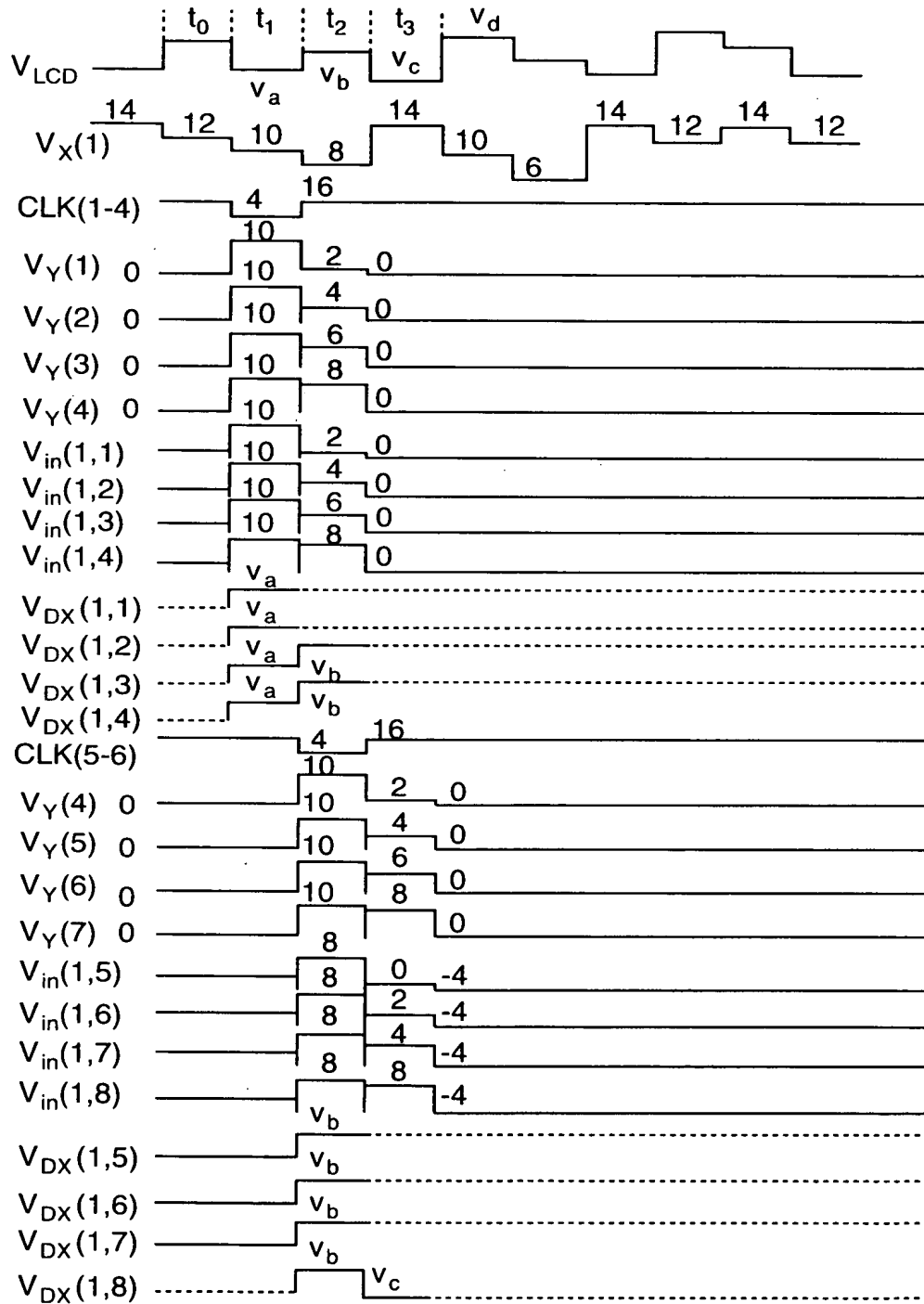




FIG. 10

SELECTION PERIOD  $t_1$ :  
 LINES 1 TO 4  
 $V_{in}(t_1) = V_X(t_1) \geq 6$

LINES 5 TO 8  
 HOLDING  $V_{in}(t_1) \leq 4$

|    |            |            |   |   |    |    |    |   |   |
|----|------------|------------|---|---|----|----|----|---|---|
|    |            | $V_X(t_1)$ |   |   |    |    |    |   |   |
|    |            | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 10 | $Y_Y(t_1)$ | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 10 |            | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 10 |            | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 10 |            | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 0  |            | *          | * | * | *  | *  | *  | * | * |
| 0  |            | *          | * | * | *  | *  | *  | * | * |
| 0  |            | *          | * | * | *  | *  | *  | * | * |
| 0  |            | *          | * | * | *  | *  | *  | * | * |
|    |            | $\vdots$   |   |   |    |    |    |   |   |

SELECTION PERIOD  $t_2$ :  
 LINES 1 TO 4  
 $V_{in}(t_2) = V_X(t_1) + V_Y(t_2) - 10$

HOLDING  $V_{in}(t_1) \leq 4$

|    |            |            |    |    |    |    |   |   |    |
|----|------------|------------|----|----|----|----|---|---|----|
|    |            | $V_X(t_2)$ |    |    |    |    |   |   |    |
|    |            | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6  |
| 2  | $Y_Y(t_2)$ | 2          | 0  | 0  | 2  | 4  | 2 | 0 | -2 |
| 4  |            | 4          | 2  | 2  | 4  | 6  | 4 | 2 | 0  |
| 6  |            | 6          | 4  | 4  | 6  | 8  | 6 | 4 | 2  |
| 8  |            | 8          | 6  | 6  | 6  | 10 | 8 | 6 | 4  |
| 10 |            | *          | *  | *  | *  | *  | * | * | *  |
| 10 |            | *          | *  | *  | *  | *  | * | * | *  |
| 10 |            | *          | *  | *  | *  | *  | * | * | *  |
| 10 |            | *          | *  | *  | *  | *  | * | * | *  |
|    |            | $\vdots$   |    |    |    |    |   |   |    |

SELECTION PERIOD  $t_3$ :  
 LINES 1 TO 4  
 HOLDING  $V_{in}(t_3) = V_X(t_1) - 10 \leq 4$

LINES 5 TO 8  
 $V_{in}(t_3) = V_X(t_3) \geq 6$

|   |            |            |    |    |    |    |    |    |    |
|---|------------|------------|----|----|----|----|----|----|----|
|   |            | $V_X(t_3)$ |    |    |    |    |    |    |    |
|   |            | -4         | 0  | 0  | 0  | 0  | -4 | -8 | -8 |
| 0 | $Y_Y(t_3)$ | -2         | 0  | 0  | 0  | 0  | -2 | -4 | -4 |
| 0 |            | -2         | 0  | 0  | 0  | 0  | -2 | -4 | -4 |
| 0 |            | -2         | 0  | 0  | 0  | 0  | -2 | -4 | -4 |
| 0 |            | -2         | 0  | 0  | 0  | 0  | -2 | -4 | -4 |
| 2 |            | 8          | 10 | 10 | 10 | 10 | 8  | 6  | 6  |
| 4 |            | 8          | 10 | 10 | 10 | 10 | 8  | 6  | 6  |
| 6 |            | 8          | 10 | 10 | 10 | 10 | 8  | 6  | 6  |
| 8 |            | 8          | 10 | 10 | 10 | 10 | 8  | 6  | 6  |
|   |            | $\vdots$   |    |    |    |    |    |    |    |

FIG. 11

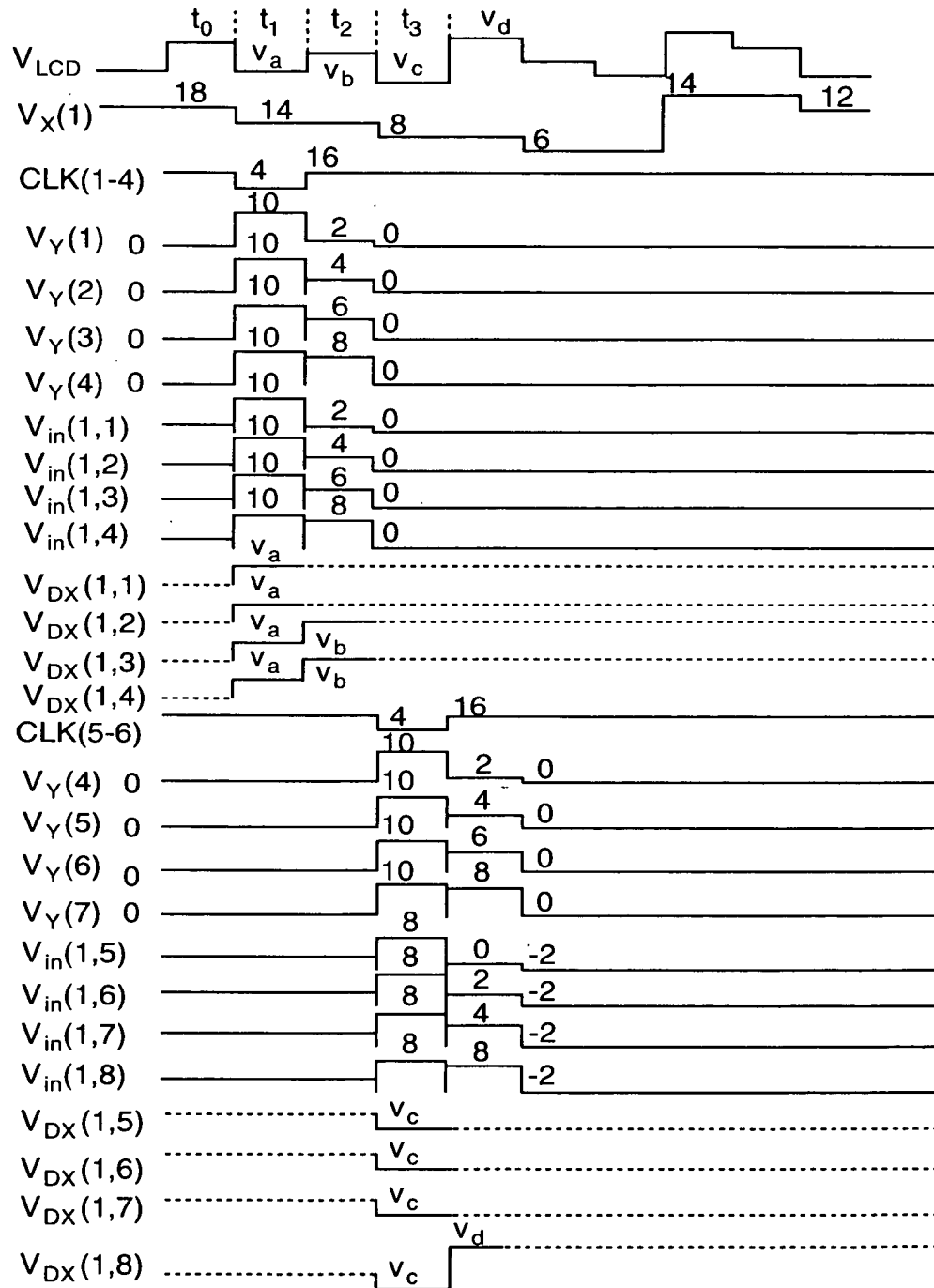


FIG. 12

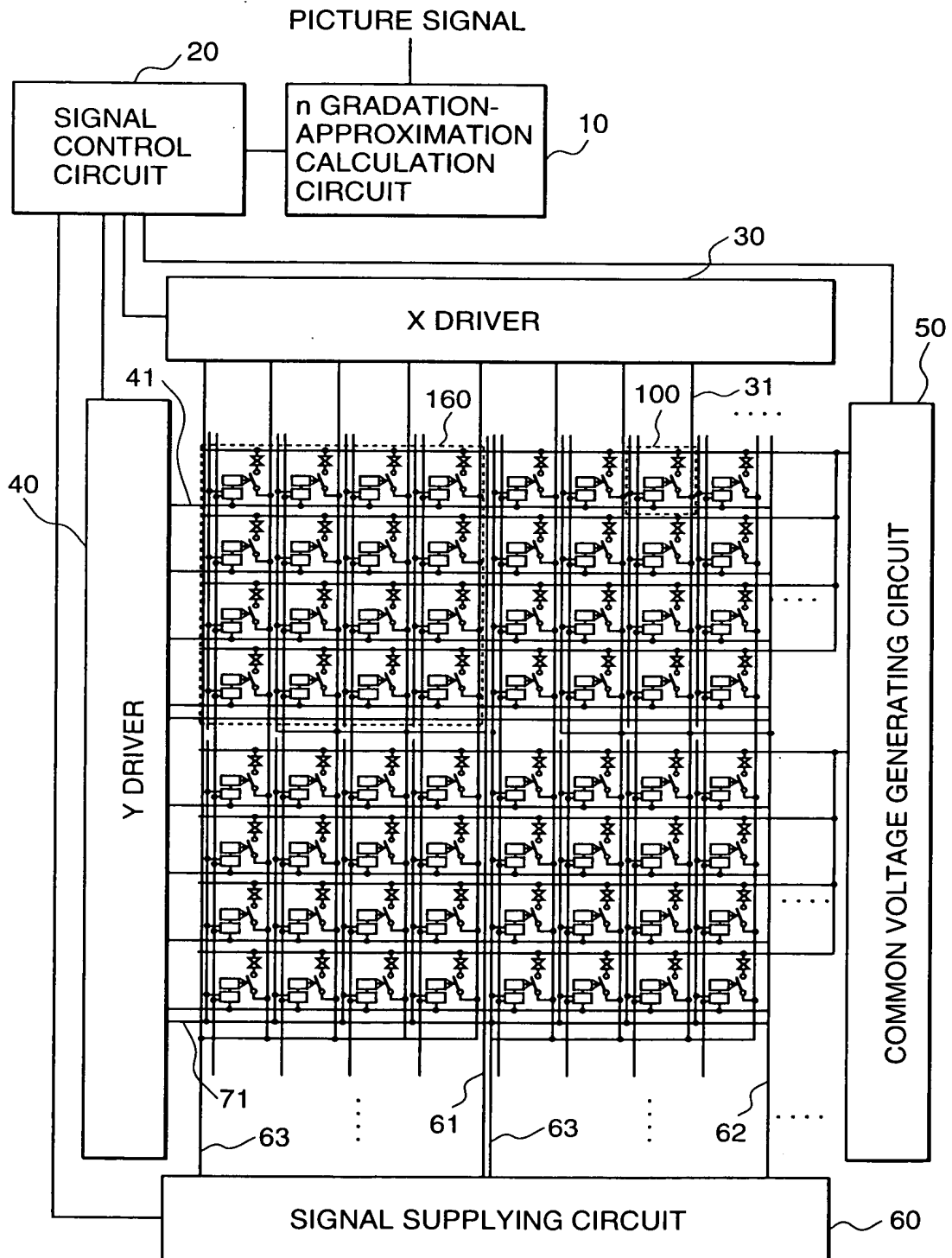


FIG. 13

SELECTION PERIOD  $t_1$ :  
 LINES 1 TO 4  
 $V_{in}(t_1) = V_X(t_1) \geq 6$

LINES 5 TO 8  
 HOLDING  $V_{in}(t_1) \leq 4$

|            |   |            |   |   |    |    |    |   |   |
|------------|---|------------|---|---|----|----|----|---|---|
|            |   | $V_X(t_1)$ |   |   |    |    |    |   |   |
|            |   | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 10         |   | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 10         |   | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 10         |   | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| 10         |   | 10         | 8 | 8 | 10 | 12 | 10 | 8 | 6 |
| $Y_Y(t_1)$ | 0 | *          | * | * | *  | *  | *  | * | * |
|            | 0 | *          | * | * | *  | *  | *  | * | * |
|            | 0 | *          | * | * | *  | *  | *  | * | * |
|            | 0 | *          | * | * | *  | *  | *  | * | * |

(a)

SELECTION PERIOD  $t_2$ :  
 LINES 1 TO 4  
 $V_{in}(t_2) = V_X(t_1) + V_Y(t_2) - 10$

$V_{in}(t_2) = V_X(t_2) \geq 6$

|    |  |            |    |    |    |    |   |   |    |
|----|--|------------|----|----|----|----|---|---|----|
|    |  | $V_X(t_2)$ |    |    |    |    |   |   |    |
|    |  | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6  |
| 2  |  | 2          | 0  | 0  | 2  | 4  | 2 | 0 | -2 |
| 4  |  | 4          | 2  | 2  | 4  | 6  | 4 | 2 | 0  |
| 6  |  | 6          | 4  | 4  | 6  | 8  | 6 | 4 | 2  |
| 8  |  | 8          | 6  | 6  | 8  | 10 | 8 | 6 | 4  |
| 10 |  | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6  |
| 10 |  | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6  |
| 10 |  | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6  |
| 10 |  | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6  |

(b)

SELECTION PERIOD  $t_3$ :  
 LINES 1 TO 4  
 HOLDING  $V_{in}(t_3) = V_X(t_1) - 10 \leq 4$

LINES 5 TO 8  
 $V_{in}(t_3) = V_X(t_2) + V_Y(t_3) - 10$

|            |   |            |    |    |   |   |    |    |    |
|------------|---|------------|----|----|---|---|----|----|----|
|            |   | $V_X(t_3)$ |    |    |   |   |    |    |    |
|            |   | 14         | 10 | 8  | 6 | 6 | 10 | 10 | 12 |
| 0          |   | 0          | -2 | -2 | 0 | 2 | 0  | -2 | -4 |
| 0          |   | 0          | -2 | -2 | 0 | 2 | 0  | -2 | -4 |
| 0          |   | 0          | -2 | -2 | 0 | 2 | 0  | -2 | -4 |
| 0          |   | 0          | -2 | -2 | 0 | 2 | 0  | -2 | -4 |
| $Y_Y(t_3)$ | 2 | 0          | 2  | 2  | 2 | 2 | 0  | -2 | -2 |
|            | 4 | 0          | 4  | 4  | 4 | 4 | 2  | 0  | 0  |
|            | 6 | 4          | 6  | 6  | 6 | 6 | 4  | 2  | 2  |
|            | 8 | 6          | 8  | 8  | 8 | 8 | 6  | 4  | 4  |

(c)

FIG. 14

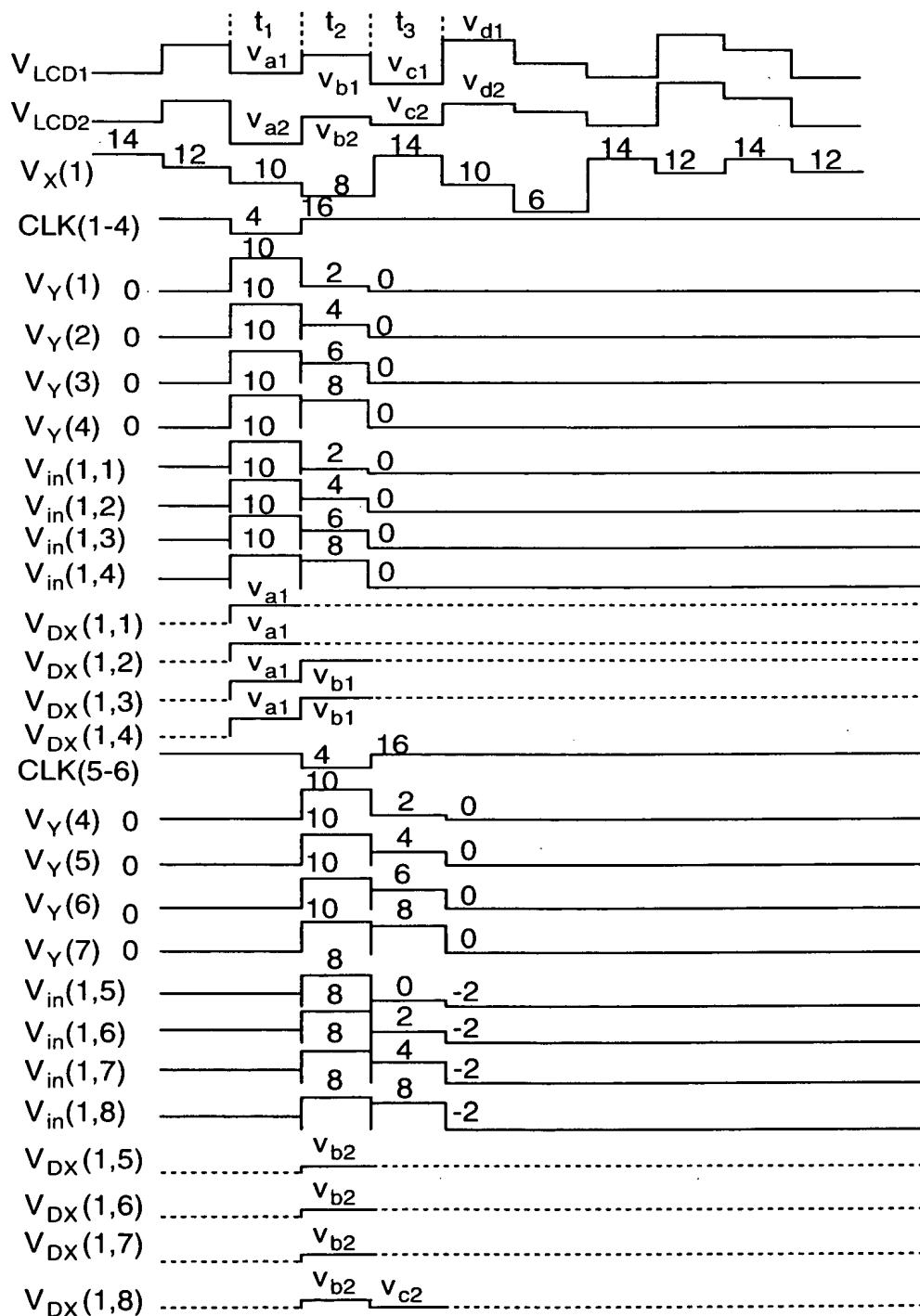


FIG. 15

SELECTION PERIOD  $t_1$ :  
 LINES 1 TO 4  
 $V_{in}(t_1) = V_X(t_1)$

LINES 5 TO 8  
 HOLDING  $V_{in}(t_1) \leq 4$

|   |  |            |   |   |   |    |   |   |   |
|---|--|------------|---|---|---|----|---|---|---|
|   |  | $V_X(t_1)$ |   |   |   |    |   |   |   |
|   |  | 2          | 6 | 6 | 8 | 10 | 8 | 6 | 4 |
| 6 |  | 2          | 6 | 6 | 8 | 10 | 8 | 6 | 4 |
| 6 |  | 2          | 6 | 6 | 8 | 10 | 8 | 6 | 4 |
| 6 |  | 2          | 6 | 6 | 8 | 10 | 8 | 6 | 4 |
| 6 |  | 2          | 6 | 6 | 8 | 10 | 8 | 6 | 4 |
| 0 |  | *          | * | * | * | *  | * | * | * |
| 0 |  | *          | * | * | * | *  | * | * | * |
| 0 |  | *          | * | * | * | *  | * | * | * |
| 0 |  | *          | * | * | * | *  | * | * | * |

(a)

SELECTION PERIOD  $t_2$ :  
 LINES 1 TO 4  
 $V_{in}(t_2) = V_X(t_1) + 4 \geq 6$

$V_{in}(t_2) = V_X(t_2)$

|    |  |            |    |    |    |    |    |    |   |
|----|--|------------|----|----|----|----|----|----|---|
|    |  | $V_X(t_2)$ |    |    |    |    |    |    |   |
|    |  | 4          | 6  | 6  | 6  | 6  | 4  | 2  | 2 |
| 10 |  | 6          | 10 | 10 | 12 | 14 | 12 | 10 | 8 |
| 10 |  | 6          | 10 | 10 | 12 | 14 | 12 | 10 | 8 |
| 10 |  | 6          | 10 | 10 | 12 | 14 | 12 | 10 | 8 |
| 10 |  | 6          | 10 | 10 | 12 | 14 | 12 | 10 | 8 |
| 6  |  | 4          | 6  | 6  | 6  | 6  | 4  | 2  | 2 |
| 6  |  | 4          | 6  | 6  | 6  | 6  | 4  | 2  | 2 |
| 6  |  | 4          | 6  | 6  | 6  | 6  | 4  | 2  | 2 |
| 6  |  | 4          | 6  | 6  | 6  | 6  | 4  | 2  | 2 |

(b)

SELECTION PERIOD  $t_3$ :  
 LINES 1 TO 4  
 $V_{in}(t_3) = V_X(t_1) + V_Y(t_3) - 6$

LINES 5 TO 8  
 $V_{in}(t_3) = V_X(t_2) + 4 \geq 6$

|    |  |            |    |    |    |    |   |   |   |
|----|--|------------|----|----|----|----|---|---|---|
|    |  | $V_X(t_3)$ |    |    |    |    |   |   |   |
|    |  | 10         | 8  | 6  | 2  | 2  | 4 | 6 | 8 |
| 2  |  | -2         | 2  | 2  | 4  | 6  | 4 | 2 | 0 |
| 4  |  | 0          | 4  | 4  | 6  | 8  | 6 | 4 | 2 |
| 6  |  | 2          | 6  | 6  | 8  | 10 | 8 | 6 | 4 |
| 8  |  | 4          | 8  | 8  | 10 | 12 | 8 | 8 | 6 |
| 10 |  | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6 |
| 10 |  | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6 |
| 10 |  | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6 |
| 10 |  | 8          | 10 | 10 | 10 | 10 | 8 | 6 | 6 |

(c)

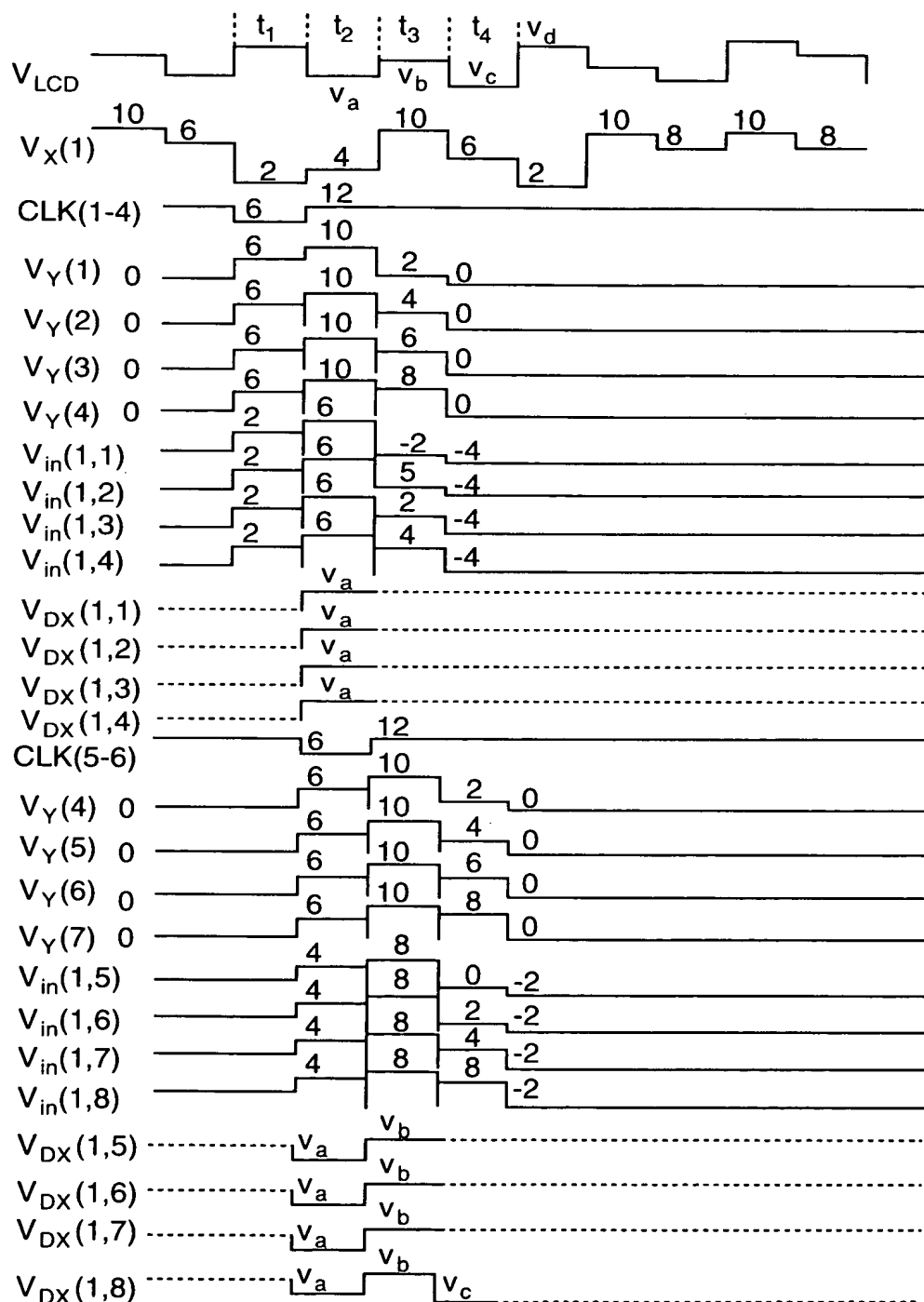
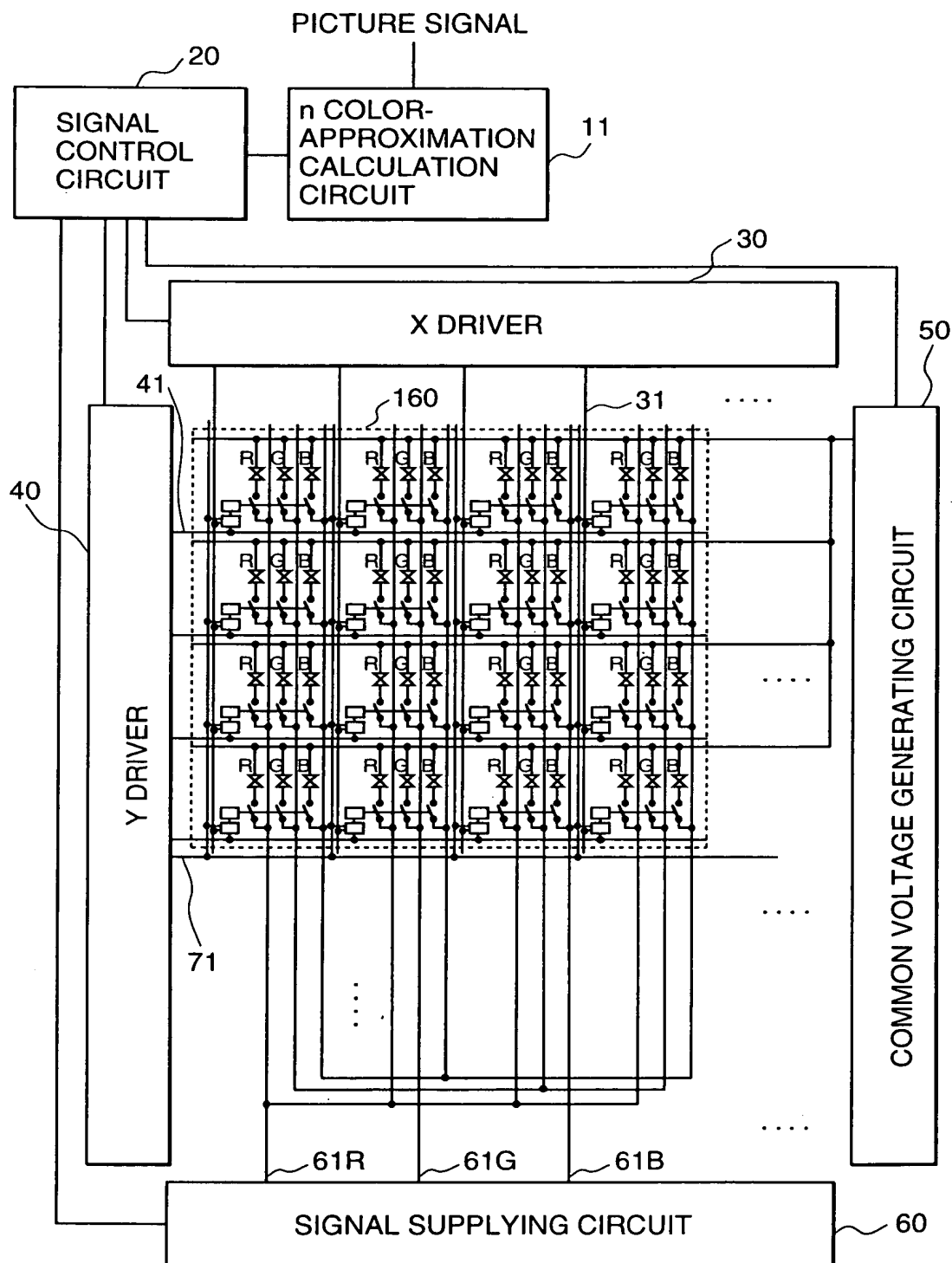


FIG. 17





**FIG. 18**

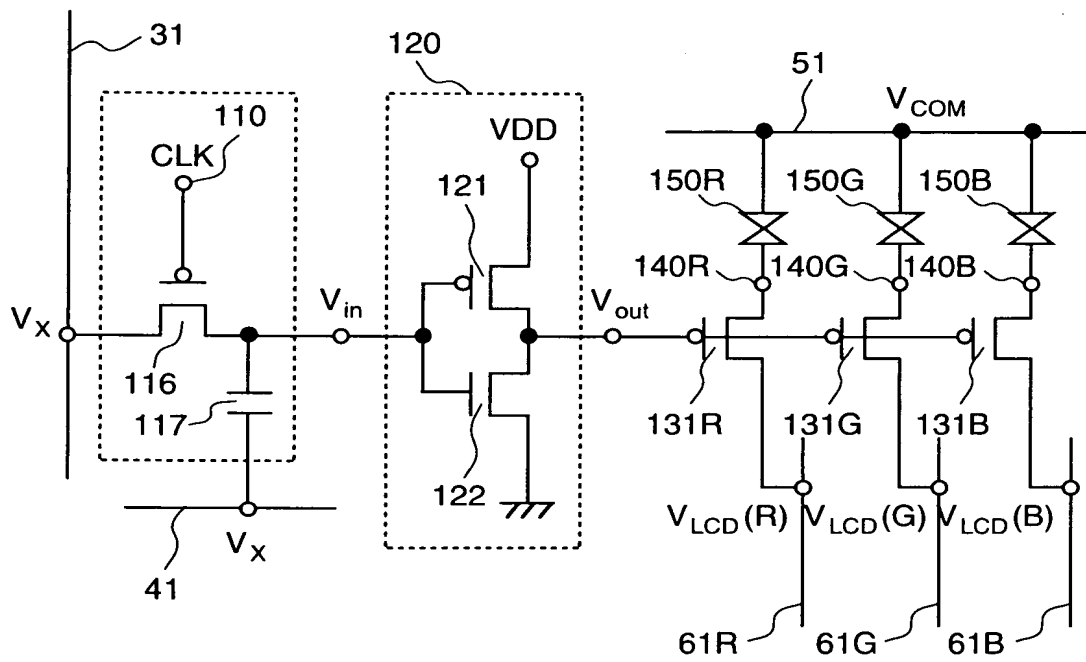
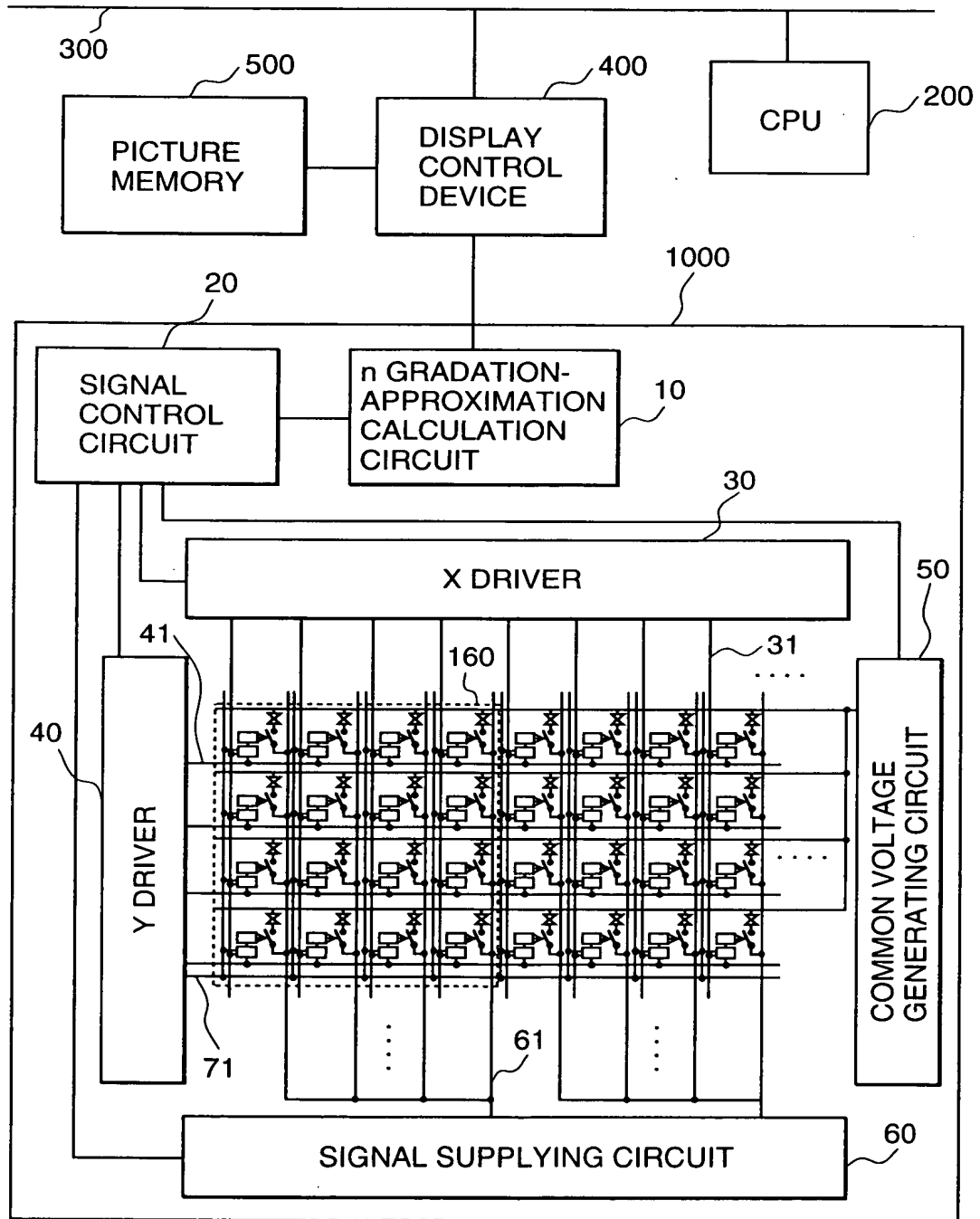


FIG. 19



060907

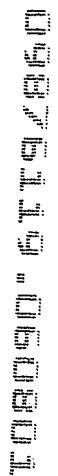


FIG. 21

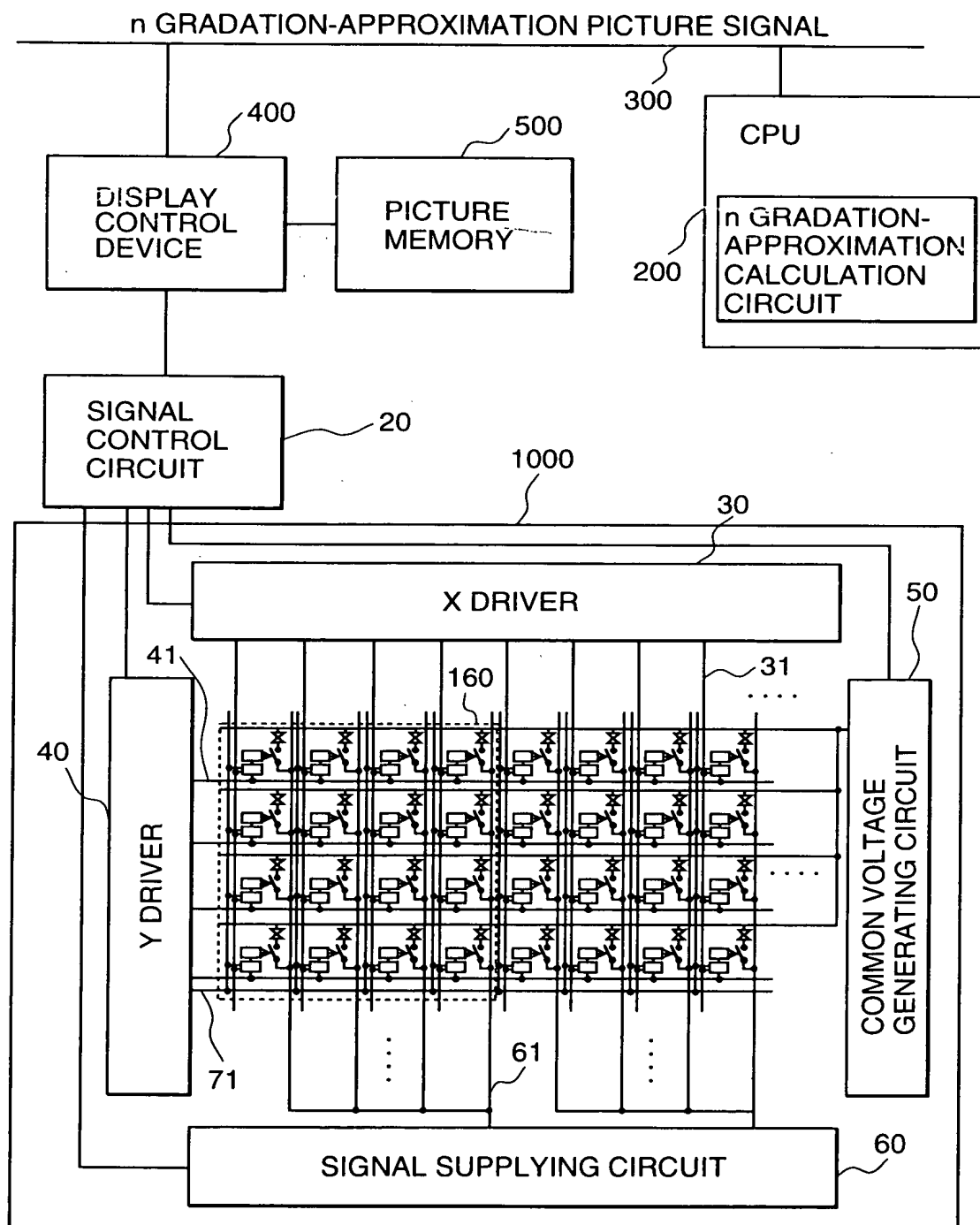
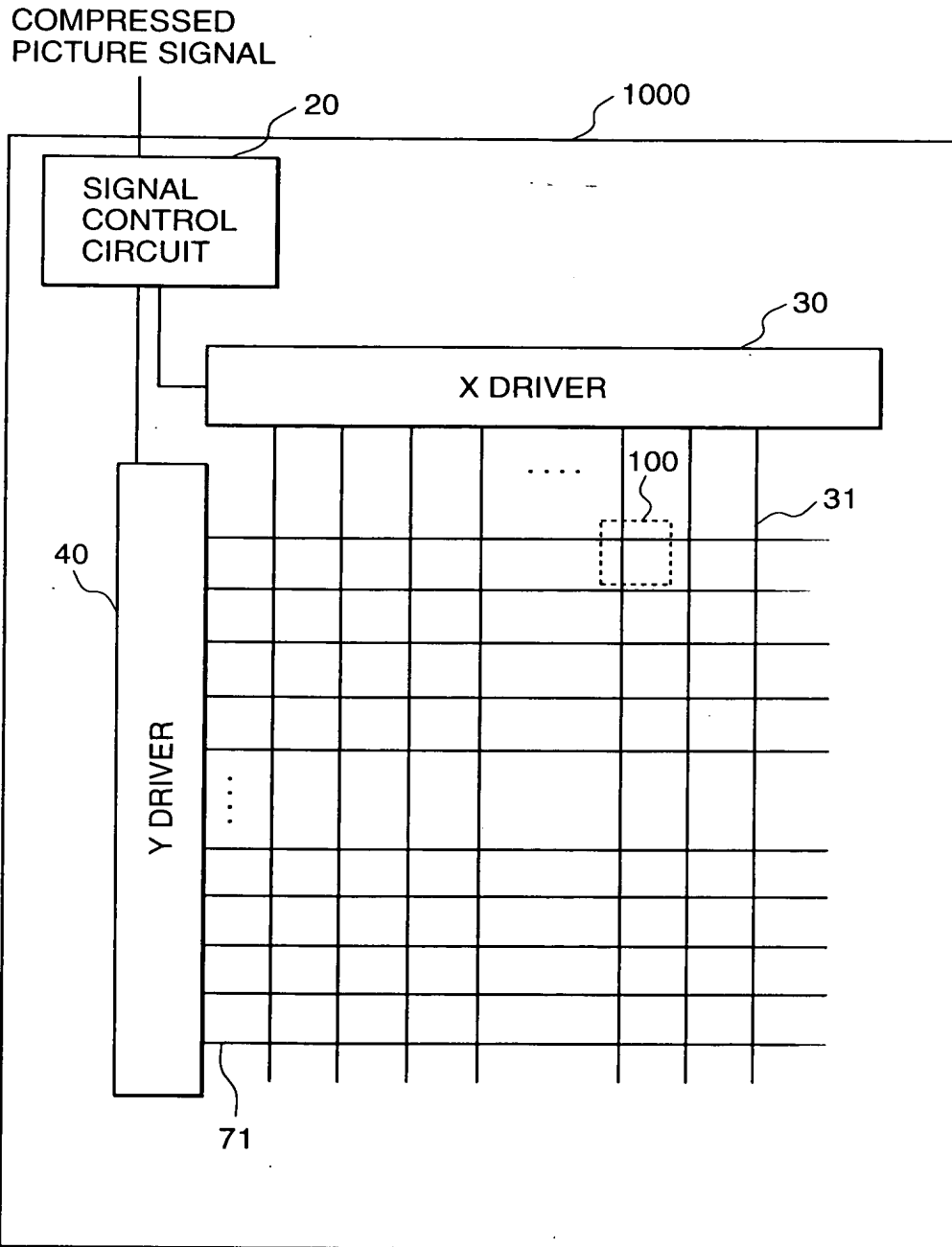


FIG. 22



2025-10-06 10:00:00